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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/442,106	11/17/1999	JOHN PHILIP PETTITT	53588-025	5428

7590 05/16/2002

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[REDACTED] EXAMINER

GARG, YOGESH C

ART UNIT	PAPER NUMBER
3625	

DATE MAILED: 05/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/442,106	PETTITT, JOHN PHILIP <i>[Signature]</i>	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yogesh C Garg	3625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 November 1999.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 17-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 17-30 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)                  4) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)                  5) Notice of Informal Patent Application (PTO-152)  
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.                  6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This is the FAOM (First action on merits) to the continuation application 09/442106 to a prior application 08/901,687. Receipt of Pre-amendment specifying cancellation of claims 1-16 and addition of new claims 17-30 is acknowledged. Amendment to the original title is acknowledged. Currently claims 17-30 are pending for examination.

***Specification***

2. The disclosure is objected to because of the following informalities: On page 4 line 17 and page 5, line 4, the term "the credit information" lacks antecedent in the disclosure. Further, it is unclear as how merchant can provide credit information to IVS 106. It is believed that applicant meant "credit card information" as cited earlier on page 2, line 16. Appropriate correction is required.

***Drawings***

3. The drawings are objected to because in Fig.1 "Prior Art" should be mentioned as stated under " Brief Description of the Drawings " on page 3, lines 2-3 and FIG.4 does not indicate steps 302, 304, and 306 as stated in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 17-30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With regards to claims 17, 24, 28, 29 and 30 the following claimed limitations are not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The limitation, "verifying the credit card information based upon a consistency check that determines whether the credit card information matches the consumer" is not enabled in the specification. On page 5, lines 3-5 of the specification, "...Consistency check 204.....other information " is a replication of the claim language. Neither it is indicated nor It is clear as what information would be used to check the consistency match. Whether it is buying pattern in terms of amount of dollars or any other currency, frequency of using the card in a given duration or related to a location or a particular category of stores. It would not be possible for a person of an ordinary skill in the art to make and use of the claimed limitation without knowing the information to be used for consistency check.

The limitation, "verifying the credit card information based upon a history check that determines whether the credit card information is consistent with the transaction information " is not enabled in the specification. On page 5, lines 11-13 of the specification, "... The history check 202 will also actively determine if the particular transaction matches previous database information within the history database 222 " is a replication of the claim language. Neither it is indicated nor It is clear as what information would be used to check the consistency of this particular transaction with the history database 222. Whether it is buying pattern in terms of amount of dollars or any other currency, frequency of using the card in a given duration or related to a location or a particular category of stores.

The limitation, " creating and storing a fraud score value based on the verifying steps that provides the merchants with a quantifiable indication of whether the credit card transaction is fraudulent "is not enabled in the specification. The specification (page 5, line 23-page 6, line 21, "..These different parameters are weighted.....Finally, the constructed map is used to determine if the new credit card transaction is valid, via step 306", states weighing the parameters in blocks 214-220 constructing maps and using the maps. The specification does not disclose, as what weights should be allocated to particular parameters. Method for allocating of weights is unclear. It is not clear as how fraudulent scores will be calculated. Specification does not disclose using any algorithm to obtain the fraudulent scores. The step of storing is not disclosed. In view of these lacking details it would not be possible for a person of an ordinary skill in the art to make and use of the invention without undue experimentation.

Since claims 18-23 and 25-27 are dependencies of claims 17 and 24 they inherit their deficiencies are rejected.

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6. Claim 27 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation, "constructing a map of credit card numbers based.....utilizing the map of credit card numbers to determine if the credit card transaction is valid" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification discloses constructing a map of "credit card transactions" and not of "credit card numbers". For further art rejection phrase "credit card transactions" will be used instead of "credit card numbers".

#### ***Double Patenting***

7 The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper time wise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 17-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,029,154. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation of "determining whether a physical address specified in the transaction

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information is consistent with other physical addresses.....with the Internet address of the consumer" in independent claims 17, 24, 28,29 and 30 in the instant application is anticipated or an obvious variation of the claimed limitations " creating and storing a ..an Internet identification mechanism...based on transaction information, in combination with information that identifies the consumer, in which the transaction information provides the merchant...." And " obtaining other transactions utilizing an Internet address that is identified whether the credit card transaction". Since claims 18-23 and 25-27 are dependencies of claims 17 and 24 respectively they inherit their deficiencies and are rejected.

***Claim Rejections - 35 USC § 103***

9 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 17-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallace (US Patent 5,988,497) in view of Blonder et al. (US Patent 5,708,422), further in view of Hanagandi et al. ("Density-based clustering and radial basis function modeling to generate credit card fraud scores", Computational Intelligence for Financial Engineering, 1996; Proceedings of the IEEE/IAFE 1996 Conference).

Note: The art rejection is being made keeping in view the earlier rejection of claims 17-30 under 35 U.S.C. 112, first paragraph 112.

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With regards to claims 17-26, and 28-30, Wallace teaches a method, system and a computer readable medium for detecting fraud in a transaction involving purchasing a product between a consumer and a merchant over the Internet (col.1, lines 5-40 and col.6, lines 6-17 ("transactions over a computer network, e.g., Internet").

Wallace teaches receiving from the merchant or a number of merchants, credit card and transaction information (s) identifying the consumer (s) and product (s) and verifying these informations based upon automatic verification system (it is inherent to check the name, address of the bearer presenting a credit-card for any purchase transaction involving shipping a package as admitted in the application on page 5, lines 15-18), consistency, and history checks verifying the credit card information that determines whether a physical address specified in the transaction information is consistent with other physical addresses that have been specified in a database of records (At least see col. 2, lines 4-15, "... *The necessity of a second tier of validation.....numerous threshold criteria or conditions.....transaction amount, credit limit, frequency of use....change in purchasing patterns(e.g., change in shipping address), geographical limitations, or the like....validation is justified*", col.4, lines 32-49, "..*For example, prevention of a fraudulent transaction....combination of threshold criteria (e.g., credit limit over \$5000...)....average charge is under \$100....trigger second tier validation* ", and col.5, line 40-col.7, line 23. Note: Wallace here teaches carrying out validation check which corresponds to detection the fraudulent transactions on a threshold criteria or numerous conditions covering history and consistency. Wallace uses this fraud detection procedure to determine whether to use further stringent methods to prevent fraudulent transactions but in no way teaches against the claimed invention in the application. ).

Wallace fails to teach inclusion of an Internet address to be included in the credit card information to be used to check the association of this Internet address with the physical

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addresses of the other transactions. However, Blonder, in the same endeavor, i.e., detecting of fraudulent credit-card transactions (col.5, lines 25-66), teaches use of Internet addresses (col.6, line 50-col.7, line 3, "*..the communications address field 308 ....or an electronic mail address....electronic mail.....sent or an electronic address ..*"). Blonder teaches using email or Internet addresses to communicate with the card owner to alert him about a credit-card transaction. In view of Blonder it would have been obvious to a person of an ordinary skill in the art at the time of the invention to recognize the popularity of email or electronic communication and to include this as a parameter of information in Wallace to check the association of email or Internet address with the physical address of the consumer. Doing so would provide an important parameter to detect the fraudulent credit-card transactions as suggested by Wallace (col.2, lines 4-10, ".....validation.....Examples of threshold criteria include.....change in shipping address...or the like". Note: Indication in Wallace to check the change of addresses or the like makes it a *prima-facie* obviousness to include email address along with shipping address and Internet's popularity as demonstrated by Blonder strengthens it further. Wallace also teaches the use of Internet and computer networks (col.6, lines 6-18).

Wallace & Blonder fails to teach weighting each value of the plurality of parameters according to the weight values and creating a fraud score value based on the verifying steps that provides the merchant with a quantifiable indication of whether the credit card transaction is fraudulent. Note: As stated earlier application does not enable these limitations. However, Hanagandi, in the same field of endeavor, i.e., detection of credit card frauds (pg.247 under "Abstract") discloses weighting each value of the plurality of parameters according to the weight values and create fraud score value (entire article, but at least pg. 247, "...*.. Historical information on credit card transactions can be used to generate a fraud score ...* ..", pg. 250, "...*.....RBFN Modeling.....If N clusters have been identified, then the output of the network is the*

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weighted sum of N Gaussian basis .....weight between biasing node and the output node....weights between the hidden layer nodes....value of these weights). In view of Hanagandi, it would have been obvious to a person of an ordinary skill in the art at the time of the invention to recognize the importance and benefits of credit card fraud scores and combine this feature with Wallace & Blonder. Doing so would help to reduce credit card fraud as suggested by Hanagandi (pg.247 under "Abstract", "*.. Historical information on credit card transactions can be used to generate a fraud score which can then be used to reduce credit card fraud*". Note: Emphasis for generating and using fraud scores to reduce the credit-card fraud makes it a *prima-facie* obviousness to include this feature in Wallace & Blonder.).

11. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over combination of Wallace/Blonder/ Hanagandi and further in view of Richardson (" Neural networks compared to statistical techniques", Computational Intelligence for Financial Engineering, 1997; Proceedings of the IEEE/IAFE 1997, 24-25 March 1997, New York City Conference).

Note: The art rejection is being made keeping in view the earlier rejection of claim 27 under 35 U.S.C. 112, first paragraph 112.

With regards to claim 27, Wallace/Blonder/ Hanagandi teaches a method for detecting fraud in credit card transaction between a consumer and a merchant over the Internet as disclosed in claim 24 above. Wallace/Blonder/ Hanagandi fails to teach constructing a map of credit card transactions and use of them. However, Richardson teaches constructing a map of credit card transactions and use of them (entire article. See Figures 2.3, 2.4, 2.5, 2.6 and 3.1. In view of Richardson, it would have been obvious to a person of an ordinary skill in the art at the time of the invention to recognize the importance and benefits of constructing maps based upon transactions and using them and combine this feature with Wallace/Blonder/Hanagandi. Doing

so would help to discriminate between normal account activity and fraudulent credit card transactions as suggested by Richardson (pg.90, under paragraph 2.3 Statistical Techniques, "...The process.....fraudulent transactions").

***Response to Arguments***

12 Applicant's arguments filed on 11/17/199 with regards to claims 17-30 have been fully considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

13 The prior art made of record and considered pertinent to applicant's disclosure:

Ghosh et al. (" Credit card fraud detection with a neural-network", System Sciences, 1994, Vol.iii:Information Systems : Decision Support and Knowledge-Based Systems, Proceedings of the Twenty-Seventh Hawaii International Conference, pgs. 621-630, 4-7 Jan 1994) discloses the study carried out for Mellon Bank to determine the effectiveness of a neural network for fraud detection of their credit card portfolio (pg.622).

US Patent 5,819,226 to Gopinathan et al. discloses a fraud detection using predictive modeling and neural networks (abstract (. The strengths of the parameters are represented by weights (col.5, lines 18-34). The parameters considered are user's profile, transaction history, consistency check, change of addresses (col.7-col.18).

US Patent 5,878,337 to Jao et al. discloses carrying out tests to check fraudulent credit card transactions on Internet (col.5, line 3-col.6, line 32, col.8, lines 22-67, col.13, lines 6-64, col.20, lines 48-57, col.23, lines 26-31, col.24, lines 15-23 and col.25, lines 5-40).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh C Garg whose telephone number is 703-306-0252. The examiner can normally be reached on M-F (8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wynn W Coggins can be reached on 703-308-1344. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Yogesh C Garg  
Examiner  
Art Unit 3625

YCG  
May 10, 2002

  
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